

Date: Thursday, 6/15/2006 1:37:23 PM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : SKID TUBE ASSEMBLY
 Job Number : 27548A
 Estimate Number : 10023
 P.O. Number : N/A Part Number : D205634041
 This Issue : 6/15/2006 S.O. No. : N/A Drawing Number : D2580 REV C
 Prsht Rev. : NC Project Number : N/A
 First Issue : N/A Type : LANDING GEAR Drawing Revision : C
 Previous Run : 27547A Material : N/A
 Due Date : 7/10/2006 Qty: 1 Um: Each
 Written By : *See comment below*
 Checked & Approved By : *[Signature]*
 Comment : Est Rev: N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 Est Rev. O 06.02.28 Added paperwork EC

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description:

1.0

D25001190

Ext'n -1' Beam Tube 4" /



Comment: Qty.: 1.0400 Each(s)/Unit Total: 1.0400 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2500-1-190

Skid Tube Extrusion

B24669 Pm '06-06-22(1)

2.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy D205-634 bluefile & type labels per PPP D205-634 CHG001

Pm '06-06-22(1)

3.0

D2596

205 Web



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2596

205 Web

B24655 Pm '06-06-22(1)

4.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1- Inspect mat'l D2500-1-190 for damage

Pm '06-06-22(1)

2-Cut D2500-1-190 per Dwg D2580 if necessary Deburr ends

Pm '06-06-22(1)

3-Drill pilot holes using drill jig DT 8149

Pm '06-06-22(1)

4-Acid etch and Alodine tube per QSI 005 4.1

Pm '06-06-22(1)

Hi-Toms Quality Assurance

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____

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Job Number: 27548A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5-Open holes to 0.500" as per Dwg D2580 without cutting fluid

6-Countersink holes as per Dwg D2580 without cutting fluid

7-Deburr and blow out all chips from inside of tube

8-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty Part Number Description Batch

A/R Sikaflex-291 M101124

Sikaflex expire date: 06-11-01

Start Time: 3:15

Fin Time: 06-06-28

DP 06-06-27

Am 06-06-27

5.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

1-Bend as per program D2580.C on CNC Bender and Folio FT009

2-Cut tubes as per Dwg. D2580

DP 06-06-28

6.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Deburr ends after cutting. Remove alodine from around holes

BE 06-06-29

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06-06-30

8.0

D25763

Step (Machining Detail)



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2576-3

Step

B23060 BE 06-07-05

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Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27548A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description:

9.0

D2579

Crossbolt Spacer



Comment: Qty.: 20.0000 Each(s)/Unit Total: 20.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
20	D2579	Spacers	BE 25977 BE 06-07-05

10.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Prepare tube for welding D2576-3 Step Remove alodine as required.

BE 06-07-05

2-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R

Aluminum Rod

BE
M100660 06-07-05

3-Weld crossbolt spacers D2579 as per Dwg. D2580 and QSI 004. For D2579 side, pass 3/8" drill, weld other side, pass 3/8" drill

spacers, weld one

A/R

Aluminum Rod

BE
M100660 06-07-05

4-Grind welds as per Dwg D2580 Grind flush ridge made from bending

PM 06-07-11 ①

5-Drill holes for wearplates using DT 8217 Open holes to 19/64", adjust stopper not to hit web. Deburr

PM 06-07-11 ①

6-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Deburr holes

7-Drill pilot holes for aft cap using DT 8215 Open holes to #6 Drill bit. Deburr

8-Drill pilot holes for Tow ring using DT8091, open to .640" and Deburr

DP
6-7-13

11.0

QC5/9

WELD INSPECTION



Comment: WELD INSPECTION

Inspect weld and Counterbore work to Step 20

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Powder Coat White (Ref: 4.3.5.2) as per QSI 005 4.3

Q.M. 06-07-28

W/O:		WORK ORDER CHANGES						
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Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

DL 06/07/31 (1)

14.0

D25771

Wearplate Fwd



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2577-1	Wearplate	B25137

15.0

D25773

Wearplate Aft



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2577-3	Wearplate	B26058

16.0

D25775

Wearplate, Centre



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2577-5	Wearplate	B24199

17.0

ALS71032130

Insert



Comment: Qty.: 44.0000 Each(s)/Unit Total : 44.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
44	ALS7-1032-130	Washer Insert	M19393

18.0

AN960JD10L

Washer



Comment: Qty.: 44.0000 Each(s)/Unit Total : 44.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
44	AN960JD10L	Washer Insert	M100233

DL 06/07/31 (1)

W/O:		WORK ORDER CHANGES							
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Job Number: 27548A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

AN34A

Bolt



Comment: Qty.: 44.0000 Each(s)/Unit Total : 44.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
44	AN3-4A	Bolt	M18310

20.0

D25941

Plug



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
16	D2594- 1	O-RING plug	B25593

21.0

D25943

O-Ring



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
16	D25943	Plug O-Rings	B24104

22.0

D2855

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap

Batch: B23925A

23.0

AN35A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch: M15205

24.0

AN960JD10L

Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

Batch: M100237

DL 06/07/31 @

W/O:		WORK ORDER CHANGES						
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action		Section B		Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date				

Part No: _____ PAR #: _____ Fault Category: _____

NOTE: Date & initial all entries

NCR: Yes ☒ No ☐ DQA:  Date: 06/08/09

QA: N/C Closed: _____ Date: _____

Date: Thursday, 6/15/2006 1:37:24 PM
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Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27548A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description:

25.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearplates as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R Sikaflex-291 M101621

Sikaflex expire date: 02/07

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291 M101621

Sikaflex expire date: 02/07

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

M101667

Batch:

FC 06 07 31

26.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

27.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-041

Location: _____

PPP Rev: _____

28.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



U 26-08-09

W/O:		WORK ORDER CHANGES						
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____



RELEASED
98/09/17 DS

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. C SHEET 1 OF 2
DATE 98.08.26		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	

QTY	Part Number	Description
X	D2580-041	SKIDTUBE ASSEMBLY
*	D2500-1	EXTRUSION
1	D2596	205 WEB
1	D2575	AFT CAP
1	D2576 - 3	STEP
20	D2579	CROSS BOLT SPACER
16	D2594-1	PLUG
16	D2594-3	O-RING
1	D2577-1	WEARSHOE
1	D2577-3	WEARSHOE
1	D2577-5	WEARSHOE
44	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or ALS4-1032-130	INSERT
46	AN3-4A	BOLT
46	AN960JD10L	WASHER

00.08.28
UP 01.08.28

EFFECTIVE DEOs
98/12/14
DEO 9124
DEO 9183

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES *
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (44 PLACES) AFTER FINISH. INSTALL AN3-4A BOLTS AND AN960JD10L WASHERS WITH SIKAFLEX-241.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

SPOT COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

DETAIL B
SCALE 5:24

GRIND FLUSH (4 PLACES)

GRIND FLUSH

GRIND FLUSH

GRIND FLUSH

LOCATION RIDGE ON UNDERSIDE OF D2576

D2576-3

UP 00.08.28

00574

00.08.28

00.08.28

Diagram illustrating the assembly of a bolted joint. The components and labels are:

- DRILL PRIOR TO D2575 CAP INSTALLATION (2 PLACES)
- #0.208
- SEAL WITH SIKAFLEX-241
- AN3-4A BOLT (1)
- AN960JD10L WASHER (1) (2 PLACES)
- D2575 CAP
- UNC SUB

Exploded view diagram of a wheel assembly. The diagram shows a central hub with four spokes, a circular rim, and a tire. Labels point to various components:

- D2579 SPACER
- D2596 WEB (REF)
- ALS7-1032-130 (REF) (TYP 44 PLACES)
- AFTER PERFORM

1. CHA
2. INS
3. WE
4. C'B

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO $\phi 0.437$ X 1.00 DEEP

[illegible]

Figure 1 is a plan view of a road layout. It shows a horizontal curve with a 1:4 slope. The curve has a radius of 20.0m and an offset of 0.640m. The distance between the hole and the tangent point is 13.4m. The distance between the hole and the tangent point is also 32.0m. The offset is 1.0m.

WELD AS PER DETAIL B

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

0.5

1.5

1.5

D

P P P P P P P

REFER TO DETAL C

02577-3

8

02577-5

02577-1

AN3-4A BOLT (1)
AN96QJ10L WASHER (1)
(44 PLACES)

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	RAB
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RELEASE
98/09/17 DS

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	 DART AEROSPACE LTD MARKHAM, ONTARIO, CANADA
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	
DATE 98.08.26	DRAWING NO. D2580	REV. C SHEET 2 OF 2 SCALE 1:24
	TITLE 205 SKIDTUBE ASSEMBLY	